

SIX NEW CICADAS FROM THE WESTERN UNITED STATES

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It was pointed out by the writer in this JOURNAL for March, 1930, page 55, that the cicadas of North America fall naturally into two great groups, namely those in which the males can protrude the uncus from, or withdraw it into, the abdomen, and those of the genera *Okanagana*, *Tibicenoides*, *Okanagodes*, *Clidophleps*, *Platypedia* and *Neoplatypedia* in which the uncus cannot be withdrawn to a like extent by the males, and is protected by being dropped into the valve or hypandrium. All our male cicadas can be placed readily and almost at a glance in one or the other of these groups. While there are species of the old world, such as *Tibicina haematodes*, that closely resemble in structure our species of *Okanagana*, it appears to be true that the characters found in the six genera mentioned above are chiefly confined to the many cicadas of Western North America.

There are at present about 75 recognized species and varieties in the United States belonging to the first of these groups, while in the second there are about 90, for during the past few years the richness of the cicada fauna of Western North America has become more and more apparent. As the distribution of some of the species has been found to be quite limited it may safely be assumed that it will still take a long time to become intimately acquainted with the numerous species.

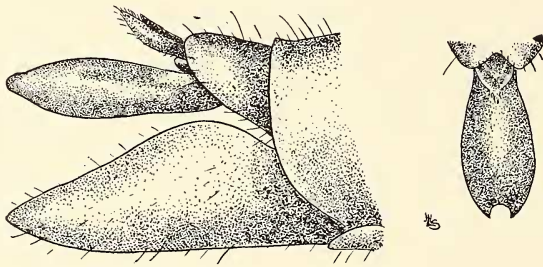
In the preparation of this paper I am indebted to Hans L. Stecher for the text figures, and to several friends for sending me numerous specimens.

Okanagana venusta new species (Plate XXV, Fig. 1)

Type male and allotype female from Greenhorn Mountain, Kern County, California, June 12, 1935 (Franklin T. Scott).

Allied to *Okanagana cruentifera*, *O. formosa* and *O. magnifica*, and of the same wing expanse as the two first named, but with the head broader and the front not nearly as prominent. (See Journal, N. Y. Ento. Soc.,

June 1926, Plate XXII). From *magnifica* it may be separated by the differently shaped fore wings and in having the venation surrounding the marginal areas fine as in *cruentifera* and not heavily clouded as in the larger *magnifica*. Uncus as figured and remarkable for the shape of the apical notch when viewed from above. It is about the same length as the valve, as in *cruentifera* and *formosa*, whereas in *magnifica* the valve is much longer than the uncus. Head as broad across eyes as the pronotum at anterior angles; front not prominent, feebly produced and with the median sulcus well defined about as in *formosa* and not as narrowed above as in *cruentifera*. Last ventral segment with the end rounded. Uncus is black and shaped as figured. The last ventral segment of the allotype is deeply notched centrally. Fore wings shaped as in *formosa* and *cruentifera* and many of the smaller species of the genus. Basal cell of the fore wings black, the margin bright orange-yellow to the end of the radial area, darker beyond; the remaining veins fuscous and of the same color throughout. Both pairs of wings at base as well as the anal membranes, orange, but not orange-red as in *cruentifera* and *formosa*.



OKANAGANA VENUSTA

Head black. Pronotum black, rather broadly pale orange on the hind margin and with the sides very narrowly edged with orange for about half the distance toward the head. Mesonotum black; hind margin pale. Metanotum margined posteriorly with orange. Tergum black, the 9th and 10th segments narrowly margined posteriorly with orange. Beneath black the legs variegated with orange, and each abdominal segment orange along the pos-

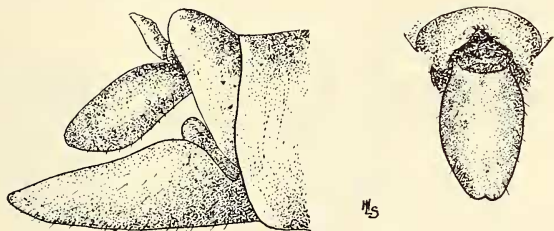
MEASUREMENTS IN MILLIMETERS

	Male Type	Female Allotype
Length of body	26	25
Width of head across eyes	8	8
Expanse of fore wings	73	75
Greatest width of fore wing	11	11.5
Length of valve	4	

terior margin; more broadly so on the 2nd and 8th segments. Valve pale blackened along the sides at the upper margin. In the female the space about the notch and ovipositor is pale.

In addition to the type and allotype, I have received three males and two females collected at the same place and time, and a female from Kettleman City, Kings County, California, June 13, 1935. Mr. Scott states that he found them very abundant in Greenhorn Mountain, but shy and hard to catch.

Okanagana fratercula (Plate XXV, Fig. 4) was described from Utah in the JOURNAL, NEW YORK ENTOMOLOGICAL SOCIETY, Vol. XXIII, March 1915, and was named as the little brother of *Okanagana schaefferi* because of its close resemblance except in size, *schaefferi* being a large cicada and *fratercula* a very small one. Since 1915 several species resembling *schaefferi*, and also occurring in Utah, such as *O. fumipennis* and *O. tanneri* have been described. *Okanagana gibbera*, which also belongs to this group was described in this Journal, December, 1927.



OKANAGANA FRATERCULA

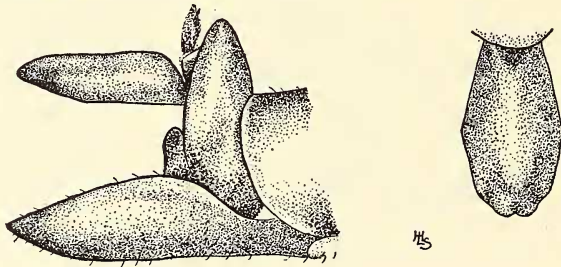
It has become evident as the writer's collection has grown that two other species likewise occurring in Utah, have been confused with *fratercula*. These are here described as new, and comparisons made with related forms, all of which have been described in this Journal. The specimens of *fratercula* lately reexamined are from southwestern Utah. They are the male type, Bucks Valley, Iron County, 1904; male, Beaver, Beaver County (J. E. Blazzard), and male, Kolob Mountains, Washington County, 8,500 feet., June 30, 1917 (George P. Engelhardt).

Okanagana luteobasalis new species (Plate XXV, Fig. 2).

Type male and allotype female from near Hatch, Davis County, Utah, June 5, 1931 (Dr. John W. Sugden). Davis collection.

Luteobasalis has the dorsum of the rather slim abdomen black, the hind margin of the segments very narrowly edged with orange at the sides only, and the eyes prominent. In the smaller *fratercula* each abdominal segment is plainly edged posteriorly with orange; the head is small and the eyes less prominent. Both species are black beneath, more so than the larger *schaefferi*; or than in *annulata*. In having the pronotum bordered with orange (narrowly on the anterior margin) and the tergum black, this species somewhat resembles *Okanagana bella*, but the anal membranes of all of the wings are vermilion in *bella* and orange in *luteobasalis*.

Head not quite as broad as the front margin of the pronotum; front considerably produced, sulcus of front narrow, wider below. Pronotum with the humeral angles rounded; sides sinuate toward the anterior angles which are prominent. Opercula oblique with the ends turned inward. Last ventral segment with the base about as long as the sides that gradually converge to the extremity which is not quite as rounded as in *fratercula*. The notch in the last ventral segment of the allotype is single. Uncus as figured. Wings transparent with veins of fore wings generally fuscous; those of hind wings paler. Costa of the fore wings yellowish, darker beyond the radial area. All of the wings fuscous and orange at base; the anal membranes orange and the basal area clouded or black.



OKANAGANA LUTEOBASALIS

Head above black with an orange spot above each antenna. In the allotype and some of the paratypes there is an orange spot on the front. Pronotum black narrowly bordered with orange on the front margin and more broadly on the hind margin and sides. In some of the paratypes the anterior portion of the median groove is pale. Mesonotum black with hind margin irregularly bordered with orange; the elevated \times orange-black centrally, and with a black band across each anterior ridge followed by orange. Two small orange spots beyond. The dorsal orange spots taken together are arranged in a semicircle. An orange spot near the base of each of the wings, both in the fore and hind pair. Metanotum with hind

margin orange. Tergum shining black; segments narrowly margined with orange posteriorly at the sides only; uncus black, rarely with a dorsal pale line in some of the lighter colored paratypes. Beneath nearly as black as in *fratercula*. Head black beneath, orange on sides of median sulcus and about each antenna; rostrum black, orange at base. Fore femora black with orange on sides and at tips; middle and hind femora black, orange beneath and at tips; segments of the abdomen black both centrally and at the sides, margined with orange posteriorly; valve black orange along the upper margins

MEASUREMENTS IN MILLIMETERS

	Male Type	Female Allotype
Length of body	24	24
Width of head across eyes	6.5	6.5
Expanse of fore wings	58	58
Greatest width of fore wing	10	10
Length of valve	5	

In addition to the type and allotype the following specimens of *luteobasalis* have been examined.

Utah.—Nephi, June 25, 1912; Callao, Juab Co., June, 1922 (Tom Spalding); Ft. Duchesne, July 7, 1932 (Lowell Cutler); 5 males, 1 female Parowan, July 24–25, 1921 (Knaus, Nininger and Hoover); male and 2 females Red Canyon (near Brice Canyon) June 9, 1924 (Dr. John W. Sugden) and 16 males and 7 females from near Hatch June 5, 1931 (Dr. John W. Sugden).

Idaho.—Male, Pocatello, May 25, 1889; 5 males 6 females, Rogerson May 20, 1926, on sagebrush (R. W. Haegele).

North Dakota.—Male, Marmarth, July 4, 1918 (O. A. Stevens).

Montana.—Male, Enid, July 12, 1912.

Oregon.—Five males, 2 females, Blitzen River, Harney Co., June 25, 1933 (G. P. Engelhardt); male and female, Coleman Lake, S. Oregon, June 24, 1933 (G. P. Engelhardt); male, Burns, June 1, 1915.

Alberta.—Male and female, Medicine Hat, June 29, 1923 (F. S. Carr), and male and female without date. Five males, Cypress Hills, (F. S. Carr).

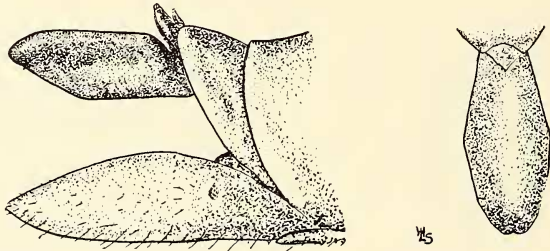
Okanagana annulata new species (Plate XXV, Fig. 3)

Type male, Promontory, Box Elder Co., Utah, June 27, 1920.

Allotype female, Hardup, Tooele Co., Utah, June 17, 1931 (G. F. Knowlton and M. J. Jones).

Larger than *Okanagana fratercula*, and lighter colored both above and below, with the posterior margin of each abdominal segment rather conspicuously orange. The body is not as elongate as in *luteobasalis*, it being a more robust species. In having the abdomen humped at segments seven and eight, especially in the female, this species resembles the larger and more brilliantly colored *Okanagana gibbera*.

Head not quite as broad as the front margin of the pronotum; front moderately produced, but not as much so as in *luteobasalis*; front sulcus narrow; eyes not as prominent as in *luteobasalis*. Pronotum with the humeral angles rounded; sides sinuate toward the anterior angles which are prominent. Opercula oblique with the rounded extremities turned inward. Last ventral segment with the base about as long as the sides which gradually converge to the broadly rounded extremity which is sometimes slightly truncate. Uncus as figured. Wings transparent with the veins of the anterior pair pale in the basal half and dark about the marginal areas. Costa of the fore wings yellowish, darker beyond the radial area. All of the wings fuscous and orange at base; the basal area clouded and the anal membranes orange.



OKANAGANA ANNULATA

Head above black, with an orange spot above each antenna, and a narrow orange colored line in front of the celli. Front black in the types and in all of the paratypes. Pronotum black, narrowly bordered with orange on the front margin and more broadly on the hind margin and sides. Anterior portion of the median groove is pale. Mesonotum black the hind margin irregularly bordered with orange; the elevated \times orange, black centrally, and with a black band across each anterior ridge, followed by orange. Two small orange spots beyond. The dorsal orange spots taken together are arranged in a semicircle. An orange spot near the base of each of the wings, both in the fore and hind pair. Metanotum with posterior margin orange. Tergum shining black; segments plainly margined with orange.

posteriorly; uncus black. Beneath paler than in *luteobasalis*. Head black; not orange at sides of median sulcus; rostrum black orange at base. All of the femora orange striped with black; segments of the abdomen largely pale centrally; black at base margined posteriorly with orange, less black at sides. Valve pale in type and in all of the paratypes.

MEASUREMENTS IN MILLIMETERS

	Male Type	Female Allotype
Length of body	25	22
Width of head across eyes	7	7
Expanse of fore wings	63	63
Greatest width of fore wing	11	11
Length of valve	5	

In addition to the type and allotype the following specimens of *Okanagana annulata* have been examined.

Utah.—Male, Trout Creek, Juab Co., July 14, 1922 and male, same locality, July 14, 1925 (Tom Spalding). Male, Hardup, Tooele Co., June 9, 1930, and male, Cedar Creek, June 9, 1930 (G. F. Knowlton). Male 3 m. w. of Snowville, Boxelder Co., June 24, 1932.

Idaho.—Male, Twin Falls, 3,700 feet, June 6, 1919; and female same locality, June 24, 1932 (E. Turner). Male, Blackfoot, 22 June, 1924. Two males, Shoshone Basin, June 11, 1926 (R. W. Haegele).

Nevada.—Male, Gardnerville, July 11, 1930 (E. W. Davis).

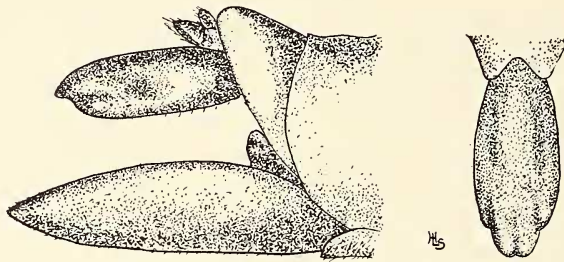
Okanagana wymorei new species (Plate XXV, Fig. 5)

Type male, Lebec, Kern County, California, June, 1918 (A. C. Davis). Wm. T. Davis collection.

Resembles both *Okanagana oregona* and *Okanagana triangulata* in size and general appearance, but the head is sunk into the pronotum to a greater degree and the eyes are less prominent. The fore wings are proportionally shorter and broader than in *oregona*; and in shape are like those of *triangulata*. As in *oregona* the venation is darker than in *triangulata* and in addition the basal cell of the fore wing is opaque and includes a dark area at its anterior margin; in *oregona* and *triangulata* the basal area is clear or nearly so. Uncus as figured.

Head black with the supra-antennal plates, a spot each side before the front ocellus, and the median groove leading from the ocellus to the hind

margin, yellowish. Pronotum black margined all around, but very narrowly in front with yellowish; also the grooves pale. Mesonotum black; two spots each side near the wings; a spot at the forward extremity of each limb of the elevated \times , and the posterior margin pale. Metanotum with the posterior margin narrowly pale. Dorsum of the abdomen black, the segments edged posteriorly with orange. Uncus pale at base, terminal part black. Abdomen pale beneath, including the valve, with the legs striped with black, particularly the femora. Each abdominal segment irregularly blackened along the base, particularly near the sides.



ORANAGANA WYMOREI

MEASUREMENTS IN MILLIMETERS

	Male Type
Length of body	19
Width of head across eyes	5.5
Expanse of fore wings	46
Greatest width of fore wing	8
Length of valve	4

In addition to the type there are two male paratypes in the writer's collection collected at the same place and time.

F. H. Wymore has sent me a number of cicadas from California.

Platypedia

In the JOURNAL, NEW YORK ENTOMOLOGICAL SOCIETY for June, 1920, a table was given for the determination of the then known species of *Platypedia*, and *P. similis* was described from Sonoma County, California. Additional specimens of *similis* were mentioned from San Mateo, Santa Cruz and Santa Clara counties. A single female from Kern County was included, but with the accumulation of specimens this is now transferred to *P. mari-*

posa, which, with *P. scotti*, also here described as new, appear to be more inland species.

In *P. mariposa* and *P. scotti* the fore wings are narrow, about as in *P. aperta* and *P. laticapitata*, but the uncus is not broad as in both of those species, and as figured in this Journal, June, 1920, and March 1921, p. 14.

In *P. areolata* the venation is darker than in *similis*, where only the radial vein and the veins surrounding the marginal areas in the fore wings are dark. This gives *similis* a yellowish appearance when seen in series.

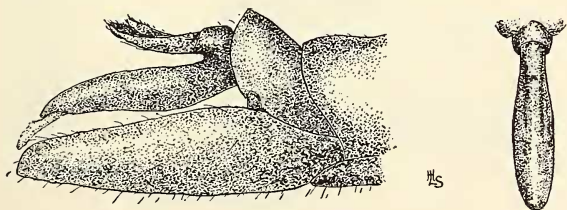
In the narrow winged *P. mariposa* the color of the venation is more as in the much larger *P. areolata*. In *P. scotti* the venation is also darker than in *similis* and the insect has a grey appearance. The six species mentioned above are alike in having the upper part of the fore femora chestnut colored.

***Platypedia mariposa* new species (Plate XXV, Fig. 6)**

Type male and allotype female from Mariposa County, California, June 17, 1914.

Resembles *Platypedia areolata* and *Platypedia similis*, but is generally smaller, and the dorsum of the abdomen is not as humped centrally. It has narrowed wings and the upper line of the terminal portion of the uncus is not as arched. Shape of head as in *areolata* and *similis* but the front more prominent. The frontal sulcus is well defined, and the groove is not interrupted in most of the specimens. The uncus is shaped much as in *similis*, except that it is slimmer and not as arched. The last ventral segment in the male is broadly rounded at the extremity, in the female the notch is V-shaped with the bottom of the V rounded.

Body black with a brassy tinge, and the usual paler marks are yellowish orange as in *areolata* and *similis*. The legs are almost wholly chestnut colored; the membranes at the base of the fore wings are yellowish white, and the dark venation about the marginal areas of the fore wings extends toward the base in many of the veins. The collar or hind margin of the pronotum is pale as in *areolata* and *similis*.



PLATYPEDIA MARIPOSA

MEASUREMENTS IN MILLIMETERS

	Male Type	Female Allotype
Length of body	18	15
Width of head across eyes	5	5
Expanse of fore wings	40	42
Greatest width of fore wing	6.5	7
Length of valve	5	

In the JOURNAL, NEW YORK ENTOMOLOGICAL SOCIETY, June 1920, p. 112, is the statement that "In the writer's collection there are also two males and three females collected in Mariposa Co., June 6 and 17, 1914, that may not be *areolata* as they are very much smaller, expanding from 40 to 46 millimeters." These are the specimens here described, and the female from Kern County has been added as stated above.

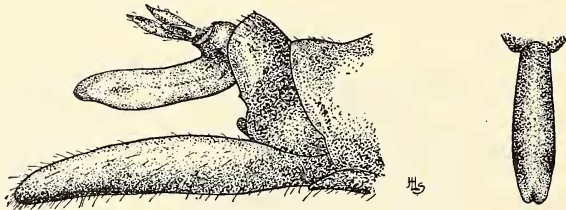
Platypedia scotti new species (Plate XXV, Fig. 7)

Type male and allotype female, Kaweah, Tulare Co., California, May, 1935 (Franklin T. Scott).

This species can easily be separated from known related forms by the shape of the uncus.

Head broad; front about as prominent as in *areolata* and *similis*, but not as hairy. Frontal sulcus owing to less hairs plainer than in either *similis* or *mariposa*. Uncus as figured. Last ventral segment in the male is rounded at the extremity; in the female the notch is V-shaped with the bottom of the V rounded. The valve is slimmer in this species than in either *mariposa* or *similis*.

Body black, with purplish reflections in certain lights. Head black with a pale spot above each antenna. Pronotum black; hind margin or collar and about the anterior two thirds of the median groove pale. Mesonotum



PLATYPEDIA SCOTTI

black with a pale area at the base of each of the fore wings, and in the allotype and some of the paratypes a small bright orange-red spot posterior thereto. Hind margin as well as the posterior half of the \times pale. Metanotum black with the hind margin pale. Abdomen, uncus and valve black both above and beneath. The front of the head black; rostrum pale at base. Legs pale striped with black; fore femora chestnut-colored above. Basal membranes of all of the wings yellowish-white and the veins of the fore wings dark, the costal margins yellow.

MEASUREMENTS IN MILLIMETERS

	Male Type	Female Allotype
Length of body	17	16
Width of head across eyes	5	5
Expanse of fore wings	38	41
Greatest width of fore wing	7	7
Length of valve	4	

In addition to the type and allotype Mr. Scott has sent to me 3 males and 5 females collected at the same time, and in 1934 he sent a female collected in Sequoia National Park, May 5.

PLATE XXV

- Figure 1. *Okanagana venusta* new species. Type.
Figure 2. *Okanagana lutēobasalis* new species. Type.
Figure 3. *Okanagana annulata* new species. Type.
Figure 4. *Okanagana fratercula*. Type.
Figure 5. *Okanagana wymorei* new species. Type.
Figure 6. *Platypedia mariposa* new species. Type.
Figure 7. *Platypedia scotti* new species. Type.